



February 15, 2011

Mr. Jeff Zaring
State Board of Education Administrator
Indiana Department of Education
Room 225 State House
Indianapolis, IN 46204

Attention: Mr. Jeff Zaring, Administrator

Dear Dr. Bennett and Members of the State Board of Education,

We respectfully request that the State Board of Education reconsider the assessment of Houghton Mifflin Harcourt's secondary math series: *Holt McDougal Algebra 1, Geometry, and Algebra 2*, and *Holt McDougal Larson Algebra 1, Geometry, and Algebra 2*. Both of these programs were listed as "Unsatisfactory" after review by the Dana Center and Indiana teachers despite conflicting recommendations by the two groups. It is our opinion that the reviews by both groups were subjective and not thorough, and therefore led to inconsistencies and contradictions between the evaluation of individual standards and overall ratings.

To begin, reviewers erroneously deemed Labs and Activities, key elements of the programs, as optional, which was not the intent of the publisher. Labs and Activities are integral to our coverage of the standards, and by not reviewing them the committee missed essential content supporting our coverage of the Standards for Mathematical Practice.

The following are two examples of the subjective overall rating of the textbooks

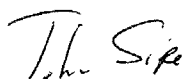
- For *Holt McDougal Algebra 1*, the reviewer assigned a rating score of 3 or 4 (strong rating) for 42 of the criteria, and 1 or 2 (weak rating) for 27 of the criteria yet the summary rating was a 1, the lowest possible score.
- For *Holt McDougal Larson Algebra 1*, the reviewer assigned a rating score of 3 or 4 (strong rating) for 75 of the criteria, and 1 or 2 (weak rating) for another 75 of the criteria, yet the summary rating again was a 1, the lowest possible score.

Attached please find responses to each title in our series, citing specific ratings and responses where possible. Since there was an inconsistency in the amount of detail we were provided from the reviewers, it was difficult for us to provide a thoughtful response to the rating. For some levels we received comprehensive reviews and comments, while for others, we only received partial documentation.

In regard to the Standards for Mathematical Practice, the Dana Center reviewed only a small portion of the overall program in its review of these Standards. Our coverage of the Standards for Mathematical Practice is integrated throughout the program, as the mathematical practices are not equally applicable to every mathematical concept. For a true understanding of how we integrate and provide complete coverage of these standards, the Dana Center would need to review the entire program.

Thank you for reconsidering these Houghton Mifflin Harcourt instructional materials for adoption by the teachers of Indiana.

| Sincerely,

A handwritten signature in dark ink, appearing to read "John Sipe". The signature is written in a cursive, flowing style.

John Sipe
Senior Vice President, National Sales Manager
Houghton Mifflin Harcourt

**Response to Review of *Holt McDougal Larson Geometry*
for the Indiana Mathematics Adoption**

Alignment to the Standards for Mathematical Practice

Summary

While the Dana Center rated *Holt McDougal Larson Geometry* as Minimal Evidence, we believe that assessment overlooked several key features of the program that strongly support the Standards for Mathematical Practice. Dana Center reviewers also used their own discretion to exclude content that they consider “separate sections,” such as Investigating Algebra Activities and Graphing Calculator Activities. That claim is subjective, as the publishers believe these are key instructional elements within the student text. In addition, Dana Center reviewers only reviewed a small portion of the content provided. All mathematical practices are not equally applicable to different mathematical concepts, so many of their responses may have been unfairly biased by looking at an isolated section of material. Specific details relating to each of the standards are noted below. We believe the sum of these constitutes far more than Minimal Evidence.

1. Make sense of problems and persevere in solving them.

The Dana Center reviewer notes that open-ended questions “are typically found in the practice problems...” and indicates that “there are quite a few opportunities for students to explain or describe their solutions....” The reviewer expresses some concern a lack of opportunities for students to communicate with each other. The Teacher Edition addresses this concern with Key Questions in every lesson to support problem solving and foster classroom discussions. The reviewer also notes, “It would be up to the teacher as to how it is implemented.” Clearly, the role of the teacher is a vital one in today’s classrooms, and it is the role of a publisher to provide that teacher with high-quality resources. We believe we have done that.

2. Reason abstractly and quantitatively.

The Dana Center reviewer expresses concern that modeling opportunities primarily reside in Investigating Geometry Activities. These activities are important instructional components and play a vital role in the program’s overall instructional design. Reasoning is an inherent and critical component in the study of geometry. Chapter 2 introduces formal reasoning and proofs, and these themes are integrated throughout the rest of the text. The Dana Center reviewer makes the broad statement that “most questions are solved by applying an algorithm,” but this statement dismisses a wide variety of problems in the exercise sets, including proofs, short response, extended response, open-response (e.g., pp. 166-167, 230-231, 308, 333-334, and 414-415). Indiana teachers seemed to agree and rated the program the highest rating, 4 out of 4, for this standard.

3. Construct viable arguments and critique the reasoning of others.

The Dana Center reviewer suggests that “problems are mainly focused on arriving at a numerical answer;” however, counterexamples of this abound. One has only to review the small sample of pages cited in the response to Standard 2 to question the reviewer’s statement. Problems on those pages ask students to describe relationships, explain reasoning, draw diagrams, correct errors, draw and justify conclusions, plan proofs, complete proofs, write proofs, and more. Further examination of exercise sets will only strengthen this claim.

4. Model with mathematics

The Dana Center reviewer notes that *Holt McDougal Larson Geometry* offers students “investigative labs” but complains that they are in a “separate section.” The publisher reiterates that the Investigating Geometry, Technology, and Spreadsheet Activities are essential instructional components and should not be arbitrarily dismissed or considered optional. Modeling opportunities include compass and straightedge constructions (e.g., pp. 33-34), graphing calculators (e.g., p. 48), geometry software (e.g., p. 122-123), physical models (e.g., p. 233), spreadsheets (e.g., p. 769), probability models (e.g., p. 770), and nets (e.g., pp. 792-793). Indiana teachers again awarded the program the highest rating, 4 out of 4, for this standard.

5. Use appropriate tools strategically.

The Dana Center reviewer notes that the book contains constructions and other opportunities to use tools, but complains again about their use being constrained to Activities. The reviewer suggests that the use of tools is “not inherent in the section examples;” however, constructions and other tools are integrated into lessons and exercises as well as labs (e.g., pp. 15, 27, 154, 235, 324, and 387). Many different types of tools are incorporated as noted in the response to Standard 4. Again Indiana teachers gave the program the highest rating, 4 out of 4, for this standard.

6. Attend to precision.

As noted by the Dana Center reviewer, examples “use proper notation and are precise;” however, the reviewer note that there are limited opportunities for students to communicate. Students have ample opportunities for written communication in the exercise sets as noted in the response to Standard 2. Further opportunities for discussion are provided in the Teacher Edition. Every lesson contains an Essential Question, Key Questions to foster discussion around the examples, and a Closing the Lesson feature to guide a discussion of important lesson concepts. Again Indiana teachers gave the program the highest rating, 4 out of 4, for this standard.

7. Look for and make use of structure.

Holt McDougal Larson Geometry offers ample opportunities for students to develop patterns and analyze structure in algebraic contexts. Patterns are explored with and without technology, especially in the Investigating Geometry Activities (e.g., pp. 153,

216, 294, 371, and 506). All of these activities also demonstrate using “specific examples moving to generalization.” Complaints that these occur in a “separate section” are unwarranted because these activities are an integral part of the program’s instructional philosophy.

8. Look for and express regularity in repeated reasoning.

As noted in the response to Standard 7, there is an abundance of the use of patterns to develop mathematical concepts and to determine rules. The Draw Conclusions sections in the activities expressly draw out reasoning and generalizations from student observations (e.g., pp. 514, 607, and 625). Connections to previously learned concepts are integrated throughout the text. Every chapter and lesson begins with a Before/Now/Why? feature that sets the concepts at hand in a mathematical and real-world context. Exercise sets continually reinforce previously learned skills and concepts. Larger ideas are brought together in Problem Solving Workshop, Mixed Review of Problem Solving, and Big Ideas features that appear in every chapter.